

REMARKS

Overview

The Examiner responded in the prior Office Action as follows: rejected claims 68-69 and 71 under 35 U.S.C. § 102(e) as being anticipated by Dunston et al. (U.S. Patent Publication No. 2002/0082954); rejected claims 59, 61 and 63 under 35 U.S.C. § 102(e) as being anticipated by Jenkins et al. (U.S. Patent Publication No. 2002/0188499); rejected claims 81-85, 87, 94, 96, and 100-101 under 35 U.S.C. § 102(e) as being anticipated by Greamo et al. (U.S. Patent Publication No. 2002/0095307); rejected claims 1-6 and 98 under 35 U.S.C. § 103(a) as being unpatentable over Greamo in view of Weber et al. (U.S. Patent Publication No. 2002/0156663); rejected claims 16-22, 24-33, 35-44, 46-54, 56-58 and 66 under 35 U.S.C. § 103(a) as being unpatentable over Jenkins in view of Weber; rejected claims 64-65 under 35 U.S.C. § 103(a) as being unpatentable over Jenkins; rejected claims 7-15, 62, 73-80 and 95 under 35 U.S.C. § 103(a) as being unpatentable over Greamo in view of Weber and Jenkins; rejected claims 86, 89-90 and 92-93 under 35 U.S.C. § 103(a) as being unpatentable over Greamo in view of Jenkins; rejected claims 23, 34, 55 and 67 under 35 U.S.C. § 103(a) as being unpatentable over Weber in view of Greamo; rejected claim 45 under 35 U.S.C. § 103(a) as being unpatentable over Jenkins in view of Weber and Dunston; rejected claim 60 under 35 U.S.C. § 103(a) as being unpatentable over Jenkins in view of Greamo; rejected claim 99 under 35 U.S.C. § 103(a) as being unpatentable over Greamo in view of Weber and Dunston; rejected claims 70 and 72 under 35 U.S.C. § 103(a) as being unpatentable over Dunston in view of Greamo; and rejected claims 88, 91, and 97 under 35 U.S.C. § 103(a) as being unpatentable over Greamo.

Applicants hereby amend claim 1 in order to clarify the subject matter of their invention. Thus, claims 1-101 continue to be pending.

Applicants would also like to thank Examiner Jeanty for his consideration during the telephone interview with Applicants' representative on November 2, 2006 regarding this application. During the interview, various claimed elements in claims 1 that are not present in the cited prior art were discussed.

Analysis

As a threshold matter, Applicants maintain their previous assertions that both Jenkins and Greamo fail to qualify as effective prior art, as discussed below. In particular, both the Jenkins and Greamo non-provisional applications were filed subsequent to the filing of the current application. Accordingly, the Greamo and Jenkins non-provisional applications qualify as prior art under 35 U.S.C. § 102(e) only to the extent that both (A) the Greamo and Jenkins applications have valid priority claims to other applications filed before the current application; and (B) the subject matter in the Greamo and Jenkins applications that is relied upon for the claim rejections finds sufficient support in the respective earlier-filed applications. As discussed below, one or both conditions is not true for both Jenkins and Greamo.

Jenkins Is Not Effective Prior Art Due To The Lack Of A Valid Priority Claim

Applicants maintain their previous assertion made in the Response filed June 16, 2006 that Jenkins fails to qualify as effective prior art due to the lack of any valid priority claim to an earlier-filed application, as discussed below. Accordingly, all of the rejections of the pending claims that are based on Jenkins are believed to be moot, and thus claims 7-22, 24-33, 35-54, 56-66, 73-80, 86, 89-90, 92-93 and 95 are believed to be in allowable form for this reason.

In particular, the prior Examiner, Linda Krisciunas, initially relied on a priority claim for the Jenkins application to earlier-filed Provisional U.S. Application No. 60/243,400 (hereinafter “the ‘400 Provisional”) in order to qualify Jenkins as prior art. However, the lack of common inventorship between Jenkins and the ‘400 Provisional prevents Jenkins from obtaining the benefit of the ‘400 Provisional’s filing date, as required by 37 C.F.R. § 1.178(a)(4). Applicants previously demonstrated this lack of common inventorship to Examiner Krisciunas.

Subsequently, Examiner Krisciunas initiated a change in the priority claim in the Patent Office records for Jenkins to refer to another provisional application, U.S. Application No. 60/243,427 (hereinafter the “‘427 Provisional”), which had apparently been identified in a “Related Applications” section of the body of the Jenkins application but not in the transmittal papers. However, even if it is allowable to make such a change in priority at this time (more than four years after the filing of the Jenkins application and well after its publication), the

Jenkins application also does not have a valid priority claim to the '427 Provisional, and thus Jenkins similarly cannot obtain the benefit of the '427 Provisional's filing date. In particular, 37 C.F.R. § 1.78(a)(5) requires that such a benefit claim "must also be submitted within the later of four months from the actual filing date of the later-filed application or sixteen months from the filing date of the prior-filed provisional application" and that "the reference required by this paragraph must be included in an application data sheet (§ 1.76), or the specification must contain or be amended to contain such reference in the first sentence(s) following the title". 35 U.S.C. 119(e) further specifies that a "specific" reference is required, and MPEP 201.11 indicates the following:

The third requirement of the statute is that the later-filed application must contain a specific reference to the prior application. . . . Any benefit claim that does not both identify a prior application by its application number and specify a relationship between the applications will not be considered to contain a specific reference to a prior application as required by 35 U.S.C. 120. . . . To specify the relationship between the applications [when claiming priority to a non-provisional application], applicant must specify whether the application is a continuation, divisional, or continuation-in-part of the prior application. . . . [When claiming the benefit of a provisional application,] a statement such as "This application claims the benefit of U.S. Provisional Application No. 60/---, filed ---, and U.S. Provisional Application No. 60/ ---, filed ---." should appear as the first sentence(s) of the description or in an application data sheet. . . . 35 U.S.C. 120 does not preclude a benefit claim to a provisional application.

MPEP 201.11, emphasis in original.

There is no indication that an application data sheet was filed for Jenkins, and thus the specific reference to claim priority from the '427 Provisional must be made within the timeline indicated above and included within the Jenkins' specification in the first sentence(s) following the title. However, the Jenkins specification as filed included only an indication that "This application claims priority from U.S. Provisional Application Serial No. 60/243,427 . . ." without any specific reference to the form of priority that is claimed. As noted above, a general claim to priority without a specific reference to the form of priority claim is ineffective to establish a priority claim. In this case, for example, it is unclear if the Jenkins application is attempting to claim the benefit of the '427 Provisional under 35 USC § 119(e), or to claim priority from the '427 Provisional as a continuation or CIP under 35 USC § 120 (as discussed in MPEP 201.11, a

portion of which is quoted above). Thus, the Jenkins application did not make an effective priority claim to the '427 Provisional as required by 37 C.F.R. § 1.178, and Jenkins does not obtain the benefit of the '427 Provisional's filing date.

Accordingly, the Jenkins application cannot properly claim the benefit of either the '400 Provisional or the '427 Provisional, and thus is not effective prior art because its filing date is subsequent to the filing date of Applicants' application.

In the current Office Action dated July 11, 2006, Examiner Krisciunas failed to respond in any manner to Applicants' prior description in the Response filed June 16, 2006 of why Jenkins fails to qualify as effective prior art on this basis. Thus, Applicants are unable to respond at this time as to any asserted basis of why Jenkins would qualify as effective prior art, and retain the right to make such a response if the rejection based on Jenkins is maintained and justified.

Jenkins and Greamo Are Not Effective Prior Art Due To Additional Reasons

Applicants similarly maintain their position that neither Greamo nor Jenkins qualify as prior art for another reason, that being that the subject matter in Greamo and Jenkins that Examiner Krisciunas has relied upon for her rejections is not properly supported by the provisional applications from which they claim priority. In response to Examiner Krisciunas' prior request that Applicants identify particular relied-upon subject matter of the Greamo and Jenkins non-provisional applications that appear to lack support in the '400 Provisional application, Applicants indicated several such aspects in the prior Response filed June 16, 2006. However, despite Applicants' explanation, Examiner Krisciunas failed to respond to Applicants' indications of these failings in any way other than a single sentence in the current Office Action that generally asserts that Greamo and Jenkins are proper prior art. (Office Action dated July 11, 2006, page 2.) Moreover, after changing the priority claim for Jenkins from the '400 Provisional application to the '427 Provisional application, Examiner Krisciunas has failed to provide any reference to any part of the '427 Provisional application that provides support for the relied-upon subject matter of Jenkins. Thus, Examiner Krisciunas has failed to establish even a prima facie

case that Greamo and Jenkins are effective prior art based upon the required corresponding support in the provisional applications from which they claim priority.

Accordingly, all of the rejections of the pending claims that are based on Jenkins or Greamo are believed to be moot, and thus claims 1-67, 70, and 72-101 are believed to be in allowable form for this reason.

Nonetheless, in the interests of furthering prosecution, Applicants address the Examiner's substantive arguments below with reference to the cited references.

Rejections Based On Prior Art

The Examiner has rejected each of the previously pending claims 1-101 as being unpatentable over Greamo, Jenkins, Dunston, or Weber, either alone or in various combinations with one another. However, as discussed below, each of the pending claims as previously rejected includes features and provides functionality not disclosed by the cited references. Thus, each of the pending claims as rejected is allowable.

Applicants' techniques are generally directed to selecting appropriate fulfillment plans for current and/or potential orders based on the effects that the selected fulfillment plans will have on future orders that have not yet been received. For example, a fulfillment plan may be selected for a current order that will minimize the costs associated with fulfilling future orders. By modeling the future costs of fulfilling future orders that would result if a particular fulfillment plan is currently used, various fulfillment plan options for a current order may be dynamically analyzed, and an optimized fulfillment plan for the current order may be selected with respect to those expected future orders, without delaying the order fulfillment process for the current order until those future orders are received. (*See, for example*, Applicants' Specification, ¶¶ 29-30, 26.) Examples of future costs for unknown future orders that may be modeled include those related to overload of work at distribution centers (*e.g.*, to reflect future increased staffing costs, customer goodwill reduction costs due to orders that are delayed because of the work overload, etc.), inventory imbalance between distribution centers (*e.g.*, to reflect costs related to shipping inventory between distribution centers), and inventory exhaustion (*e.g.*, to reflect costs related to

expedited inventory replenishment and/or customer goodwill costs due to delayed orders). (*See, for example, Applicants' Specification, ¶ 35.*)

The pending claims recite various claimed aspects that are not taught, suggested, or motivated by the cited references. As one example, at least some of the pending claims generally recite, when handling each of multiple current orders, determining how to fulfill the current order by modeling or otherwise considering the costs or other effects on potential future orders. For example, independent claim 1 as amended recites the following:

. . . for each of the multiple orders, determining a fulfillment plan specific to the order that minimizes future monetary costs of fulfilling expected future orders, the determining being performed in response to receiving the order and before the expected future orders are received, the determining including . . .

for each of the determined distinct fulfillment plans for the order, modeling at least some of the future monetary costs of supplying expected future orders to recipients if the items of the order are supplied using that fulfillment plan, the modeling including,

for each item distribution center indicated by the fulfillment plan to ship one or more indicated items, determining if the shipping of those indicated items by that item distribution center will result in an overload of work at that item distribution center when fulfilling expected future orders and will result in a shortage of inventory of those indicated items at that item distribution center when fulfilling expected future orders; and

assigning the modeled future costs based at least in part on estimates of future costs for correcting any determined work overloads and any determined inventory shortages; . . .

Other independent claims recite similar language regarding modeling or otherwise considering the effects of actions for current orders on potential future orders, as discussed below.

Conversely, Greamo, Jenkins, Dunston and Weber lack any teaching, suggestion or motivation to determine how to fulfill a particular current order based on modeling of future costs that may result from particular choices in fulfilling the current order, such as future costs of fulfilling expected future orders that have not yet been received. Greamo appears to merely describe processing orders on an order-by-order basis as they are received, without any reference to expected future orders that have yet to be received. Nonetheless, Examiner Krisciunas previously had asserted that Greamo teaches modeling future costs of supplying expected future

orders when fulfilling current orders, although in the most recent Office Action has admitted that “Greamo does not explicitly teach modeling future costs of future orders,” and instead currently asserts that paragraphs 28 and 29 of Weber teach modeling future costs. (Office Action dated July 11, 2006, page 12.)

Weber is generally related to supply chain optimization techniques, such as to explore various what-if scenarios involving modifying aspects of a supply chain in order to determine long-term business strategies, and thus does discuss considering factors such as future supply and demand of products in that context. However, Weber’s described techniques appear to be limited to long-term planning, and completely unrelated to determining fulfillment plans for fulfilling particular current orders. For example, Weber discusses considering the long-term effects of closing distribution centers, planning for capital expenditures such as opening new plants, altering shipping routes between manufacturing locations and distribution centers, etc. Weber indicates the following:

the present invention provides a supply management system and method in which it is useful to determine optimal supply chain configurations. Within the method of the present invention, the user sets up a supply chain model, specifies conditions for optimization, optimizes the supply chain model, analyzes the optimal supply chain, and fine-tunes the supply chain model. . . . the present invention assists the user in making some critical decisions about the future by predicting long-term effects (i.e., 12-18 months into the future) of changes in the supply chain. For instance, the present invention allows the user to predict the effects of opening a new manufacturing plant because of a foreseen increase in demand of the user's product. Similarly, the present invention assists the user to predict the results of removing elements of the supply chain, such as shutting down a distribution center that is doing poorly and not handling as much volume as in the past. Such changes in the supply chain are extremely complex because they influence the other elements of the supply chain and may necessitate other changes to the supply chain. For example, closing one location may require the rerouting of distribution and transportation. The present invention also helps the user look at shorter-term (such as 3 to 12 months away) effects of changes to the supply chain, thereby allowing the user to make better decisions about more current, tactical activity within the user supply chain. For example, if the user opened a new manufacturing plant, the present invention could help the user in deciding how much to manufacture in the near future, how much to ship between the new plant and a distribution center, how much stock to have at the plant, the lowest cost or most profitable customer service policy, etc.

Weber, ¶¶ 15, 28-29 (emphasis added).

The techniques described in Weber are therefore unrelated to determining how to fulfill particular current orders. Thus, with respect to the rejection of independent method claim 1 under a combination of Greamo and Weber, neither of the cited prior references teach, suggest or motivate the modeling of future costs of supplying expected future orders when fulfilling current orders. Accordingly, Examiner Krisciunas has failed to establish even a prima facie case of obviousness for claim 1 and its dependents.

Moreover, if an attempt were made to combine the long-term supply chain optimization techniques of Weber with Greamo's techniques for processing orders on an order-by-order basis as they are received, such a combination would result in an inoperable system. For example, it would be nonsensical to, for each of multiple received orders, consider long-term planning options for fulfilling each order such as closing distribution centers, building new manufacturing plants, altering shipping routes between manufacturing locations and distribution centers, etc.

Accordingly, Greamo and Weber do not teach, suggest, or motivate the modeling of future costs of supplying expected future orders as part of determining how to fulfill a current order. Thus, independent claim 1 is patentable over Greamo and Weber for at least this reason.

Furthermore, each of the other independent claims 16, 54, 59, 62, 63, 68, 73, 81, 88, 91 and 94 recites language similar to independent method claim 1 regarding modeling or otherwise considering the effects of actions for current orders on potential future orders. As previously noted, Greamo and Weber do not teach, suggest, or motivate the modeling of future costs of supplying expected future orders as part of determining how to fulfill a current order. The other cited references, Jenkins and Dunston, also fail to remedy the failings of Greamo and Weber. For example, with respect to claim 16, the Examiner asserts that paragraph 16 of Jenkins teaches considering a cost of fulfilling future orders when assessing costs for a fulfillment option for a current order. However, the cited paragraph merely describes the general features of a fulfillment system in attempting to decrease supply costs, without any teaching, suggestion, or motivation to consider costs related to fulfilling expected future orders. When discussing claim 68, the Examiner asserts that Figure 4 and accompanying text of Dunston teaches considering the effect of expected future orders on a plan for supplying a current order. However, the cited portions of Dunston merely discuss locating a distribution center that is capable of fulfilling a

received product order, without any mention of considering factors affected by expected future orders. Accordingly, due to the failure of the cited prior art to provide any teaching, suggestion or motivation to determine how to fulfill current orders based on modeled costs for expected future orders that have not yet been received, each of the other independent claims 16, 54, 59, 62, 63, 68, 73, 81, 88, 91 and 94 are patentable over the cited prior art for at least this reason.

Furthermore, various of the pending claims recite additional claim elements related to modeling future costs of expected future order, which the cited prior art references further fail to teach, suggest or motivate. For example, independent claim 1 as rejected and as currently pending recites the following (with emphasis added):

the modeling including,

for each item distribution center indicated by the fulfillment plan to ship one or more indicated items, determining if the shipping of those indicated items by that item distribution center will result in an *overload of work* at that item distribution center and will result in a *shortage of inventory* of those indicated items at that item distribution center; and

assigning the modeled future costs based at least in part on estimates of future costs for *correcting any determined work overloads and any determined inventory shortages*;

Greamo generally describes a system for processing orders that “checks availability of desired inventory to offer a low-cost solution to meet ... order requirements.” (Greamo, ¶ 41.) However, this passage, cited by the Examiner, makes no mention of *work overload* in any context, nor does it describe modeling *shortages of inventory* that may occur at a given distribution center in the future due to a current order. In addition, paragraph 60 of Greamo, cited by the Examiner, mentions costs related to carrying *excess inventory* due to inventory reservations. However, this passage makes no mention of modeling future costs based on estimated future costs related to correcting *work overloads* and *inventory shortages*. Moreover, to the extent that Weber describes any related factors, they are in the context of long-term what-if scenarios (e.g., based on closing or opening manufacturing facilities), and are unrelated to evaluating particular options for fulfilling a particular current order. Thus, neither Greamo nor Weber teaches, suggests or motivates considering future work overloads and shortages of inventory as part of determining how to fulfill a current order.

With respect to similar aspects of claim 16, Examiner Krisciunas had previously asserted that the production module 400 and accompanying text of Jenkins teaches considering costs related to future corrections of work level disparity that will be needed due to a particular fulfillment option for a current order, and that paragraphs 22, 24 and 25 of Jenkins teach considering costs related to future corrections of inventory exhaustion at a distribution center and inventory level disparity between distribution centers due to a particular fulfillment option for a current order, but in the most recent Office Action has conceded that “Jenkins does not explicitly teach a work level disparity or cost associated with desired inventory level.” (Office Action dated July 11, 2006, page 15.) Examiner Krisciunas now asserts that Weber generally teaches such aspects. However, as previously discussed, to the extent that Weber describes any related factors, they are in the context of long-term what-if scenarios (*e.g.*, based on closing or opening manufacturing facilities), and are unrelated to evaluating particular options for fulfilling a particular current order.

The pending dependent claims include the features of those claims from which they depend, and are thus allowable for the same reasons as those claims. Moreover, various of the pending claims also recite additional features lacking in the cited references, and are thus allowable on the basis of those features as well, but are not enumerated here for the sake of brevity.

Official Notice

The Examiner previously relied on numerous Official Notices in rejecting various of the pending claims in combination with other prior art references, including of goodwill costs as a component of overall costs (claims 3, 44, 65, 77, 85, and 97), of potential orders by potential customers (claims 37, 64, 71, and 76), and of determining a default center from which to fulfill an order (claims 88 and 91).

In the Response filed July 16, 2006, Applicants traversed the Examiner’s taking of these Official Notices, and specifically pointed out (in accordance with M.P.E.P. 2144.03) the errors in these Official Notice positions. Furthermore, Applicants requested that Examiner Krisciunas cite references in support of her positions if the rejections were maintained in the next Office Action.

Applicants prior arguments regarding the errors in these Official Notice positions are included without modification in the paragraph below for reference purposes. Despite Applicants specific indication of errors, Examiner Krisciunas has asserted in the current Office Action that these Official Notice positions are now admitted prior art, and has continued to maintain these Official Notice positions. Applicants dispute the assertion of Examiner Krisciunas that the Official Notice positions are admitted prior art, and maintain their position that the Official Notice positions are not supported as asserted by the Examiner. Accordingly, Applicants retain their right to contest these Official Notice positions in an appeal to the Board of Patent Appeals and Interferences.

Applicants do not agree that it would be obvious to use the recited aspects in the manner claimed. For example, even if it is true that a cost associated with customer goodwill is generally factored into a company's cost structure (as asserted by the Examiner on page 18 of the prior Office Action), the Examiner has provided no basis why a general concern for customer goodwill would render obvious the claimed elements in claim 3 of, as part of "for each of the determined fulfillment plans for the order, determining an overall cost of using that fulfillment plan to supply the items of the order", the determining of the overall cost including "assigning costs to at least some of one or more reductions in customer goodwill that result from using that fulfillment plan to supply the items of the order; and totaling the modeled future costs, the determined directly attributable costs, and the assigned customer goodwill reduction costs" for the overall cost. Similarly, even if it is true that requests for quotes (or "RFQ") are well known in the art (as asserted by the Examiner on page 19 of the prior Office Action), the Examiner has provided no teaching or motivation to perform the claimed activities with respect to such an RFQ (*e.g.*, as recited in claim 73, "in response to the received order, determining deviations during a prior time period between items predicted to be ordered during that time period and items actually ordered during that time period; for each of multiple fulfillment plans that are options for fulfilling the received order, assigning to the fulfillment plan a cost of using the fulfillment plan that is based on direct costs associated with that fulfillment plan; adjusting the assigned costs of using at least some of the multiple fulfillment plans based on whether the use of those fulfillment plans will assist in correcting determined deviations for future orders; and selecting

one of the fulfillment plans to be used for fulfilling the received order based at least in part on the cost assigned to the one selected fulfillment plan”).

Conclusion

In light of the above remarks, Applicants respectfully submit that all of the pending claims are allowable. Applicants therefore respectfully request the Examiner to reconsider this application and timely allow all pending claims. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 694-4815.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

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